

## REMARKS

### *Drawings*

Applicant submits herewith replacement drawing sheets containing amended Figures 16, 19-20 and 26-30. In Figure 16, reference sign "21a" has been changed to reference sign "22b"; in Figure 19, the lower-most reference sign "c" has been changed to "b"; and the legend "Prior Art" has been added to Figures 19-20 and 26-30.

### *Specification*

The title of the invention has been changed to "Thin Film Magnetic Head Assembly for Magnetic Tape Drive Unit". The title as amended is clearly indicative of the invention to which the claims are directed.

### *Claims*

#### *A. Claim Rejections - 35 U.S.C. §112*

Claim 1 was amended such that positive antecedent basis is provided for the element "said magnetic recording head".

Claim 7 provides :

A magnetic tape drive unit comprising a magnetic head assembly for recording signals on **a tape shaped recording medium** and tape driving means for making **the tape shaped recording medium** . . .

The Examiner found claim 7 to be indefinite because it is unclear as to whether the "tape shaped recording medium of the fourth line of the claim 7 is the same as the tape shaped recording medium of the second line of the claim. In the first instance Applicant identifies "a

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tape shaped recording medium. In the second instance, Applicant identifies "the tape shaped recording medium. Applicant asserts that "the tape shaped recording medium" is the same element as "a tape shaped recording medium".

***B. Claim Rejections - 35 U.S.C. § 102***

Claims 1-2 were rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication No. 63-108515 to Shoji . Claims 1-4 were rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,973,891 to Neumann.

Claim 1 as amended provides:

1. A magnetic head assembly comprising:  
a magnetic recording head, **having a leading side and a trailing side relative to the traveling direction of a magnetic recording medium** and fabricated in a thin film forming process, **and at least one auxiliary member adhered to either said leading side or said trailing side of said magnetic recording head, . . .**

Thus, claim 1 has been amended to include the limitation of claim 2 that an auxiliary member is adhered to the magnetic recording head. Applicant's magnetic head assembly is used in connection with magnetic tape recording, particularly in connection with, helical scan type tape recording which utilizes a rotational head drum. The auxiliary members 22a and 22b are adhered to the magnetic recording head. When recording signals, the head contacts the recording medium. The presence of the auxiliary members 22a and 22b reduce wear on the magnetic recording head. As described at page 15, line 31-page 16, line 16:

. . .since an auxiliary member is adhered onto the leading and/or trailing side of the magnetic recording head in the traveling

direction of the magnetic recording medium according to the present invention, thrashing of the tape shaped recording medium can be suppressed if the auxiliary member is provided at the leading side, thereby stabilizing the tape shaped recording medium before contacting with the magnetic recording head and reducing force to be applied to the magnetic recording head in the peeling direction of the films thereof when the tape shaped recording medium is brought into contact with the magnetic recording head.

On the other hand, if the auxiliary member is provided at the trailing side, any force to be applied in the peeling direction of the films is received by the auxiliary member, thereby preventing the films from being peeled off.

In rejecting claims 1 and 2 the Examiner found that Shoji teaches a magnetic head assembly including a substrate 11, a first magnetic core 17, and a second magnetic core 12 positioned on the leading side of the magnetic head assembly. The Examiner also found that Shoji teaches an auxiliary member 13 adhered to the leading side and the trailing side of the magnetic recording head.

The movement of the magnetic recording medium relative to the magnetic recording head is represented in Figure 4 of Shoji. Although Figure 4 relates to a different embodiment of a magnetic recording head, as shown in Figure 4, the magnetic recording medium is moved relative to the first and second magnetic cores 6 and 2 such that the media first encounters magnetic core 2 and then encounters magnetic core 6. Thus, magnetic core 2 is provided on the leading side of the magnetic recording head and magnetic core 6 is provided on the trailing side of the magnetic core head. As shown in Figure 2, members 13 are provided adjacent the magnetic core 12. The members 13 are not, however, provided on the leading or trailing side of the magnetic cores 2, 6 and therefore, do not provided the advantages of the

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auxiliary members 22a, 22b of Applicant's invention. Member 13 of Shoji encounters the media at the same time the magnetic core 2 encounters the media. When contact occurs between the media 9 and the core 2 and the auxiliary member 13 simultaneously. Thus, unlike the auxiliary members 22a, 22b of Applicant's invention, auxiliary members 13 do not serve to prevent head wear.

Applicant asserts that because Shoji does not disclose a magnetic recording head assembly including an auxiliary member adhered to the leading or trailing side of a magnetic core, claim 1 as amended is not anticipated by Shoji.

Neumann discloses a write head which comprises a planar, trailing edge bottom pole 52, a write gap 54, and a leading top edge pole 62. The head configuration for the poles 52, 62 are not discussed by Neumann. Furthermore, auxiliary members adhered to either the leading or trailing side of the recording head are not address by Neumann.

Applicant asserts that because Neumann does not disclose a magnetic recording head assembly including an auxiliary member adhered to the leading or trailing side of a magnetic core, claim 1 as amended is not anticipated by Neumann.

Claims 1-6 were also rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,812,350 to Chen et al. Claim 1 provides:

1. A magnetic head assembly comprising:  
a magnetic recording head, . . .including; . . .  
a first magnetic core formed above said substrate and having a  
front end portion thereof,  
a second magnetic core formed above said substrate having a  
front end portion and a back end portion thereof, . . .  
**wherein a width of said second magnetic core at the front  
end portion thereof is equal to or smaller than a width of  
said first magnetic core. . .**

Chen discloses a magnetic recording head which provides a high magnetic moment material for the pole pieces as well as a metal-in-gap configuration for the pole tips. The Examiner finds that Chen teaches a magnetic recording head 30 including a first magnetic core 40, 42, a second magnetic core 44, having a predetermined gap (G3) between the front end portions thereof. In finding that the width of the second magnetic core at the front end portion thereof is formed equal to or smaller than that of the first magnetic core, the Examiner cites Figure 8. As shown in Figure 8, however, the width of elements 40, 42 and 44 are identical. Therefore, Chen does not disclose a magnetic recording head in which the width of said second magnetic core at the front end portion thereof is equal to or smaller than a width of said first magnetic core", as required by claim 1. Thus, Applicant asserts that claim 1 is not anticipated by Chen.

Applicant asserts that neither Shoji, Neumannn nor Chen anticipates claim 1 as amended and therefore respectfully request reconsideration of claim 1.

Claims 3 and 5 depend from claim 1. Applicant asserts that because claim 1 is allowable, claims 3 and 5 are also allowable. Applicant respectfully requests reconsideration and allowance of the claims 3 and 5.

### ***C. Claim Rejections 35 U.S.C. 103***

Claims 7-10 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Neumann. Claim 7 as amended provides:

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7. A magnetic tape drive unit comprising a magnetic head assembly for recording signals on a tape shaped recording medium and tape driving means for making the tape shaped recording medium to travel along a predetermined traveling path, wherein:  
said magnetic head assembly comprises;  
a magnetic recording head having a leading side and a trailing side relative to the traveling direction of said tape-shaped recording medium . . . **and at least one auxiliary member adhered to either said leading side or said trailing side of said magnetic recording head . . .**

As discussed above with respect to claim 1, Neumann does not disclose a magnetic head assembly having an auxiliary member adhered to the leading or trailing side of the magnetic reading head. Thus, the Examiner's conclusion that Neumann teaches the magnetic head assembly of claim 7 is incorrect.

Claims 7-12 were also rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Chen. Claim 7 also provides:

7. A magnetic tape drive unit comprising a magnetic head assembly for recording signals on a tape shaped recording medium and tape driving means for making the tape shaped recording medium to travel along a predetermined traveling path, wherein:  
said magnetic head assembly comprises;  
a magnetic recording head having a . . . and at least one auxiliary member adhered to either said leading side or said trailing side of said magnetic recording head, said magnetic recording head including, a substrate, a first magnetic core . . . having a front end portion thereof,, a second magnetic core . . . having a front end . . . **wherein a width of said second magnetic core at the front end portion is equal to or smaller than a width of said first magnetic core. . .**

As discussed above with respect to claim 1, Chen does not disclose a magnetic recording head in which the width of said second magnetic core at the front end portion thereof is equal

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to or smaller than a width of said first magnetic core". Thus, the Examiner assertion that Chen discloses the a magnetic recording head as provided in claim 7 is incorrect.

Applicant asserts that claim 7 is not rendered obvious by either Neumann or Chen, and respectfully requests reconsideration of claim 7 by the Examiner.

Claims 9 and 11 depend from claim 7. Applicant asserts that because claim 7 is allowable, claims 9 and 11 are also allowable.

#### *Newly Added Claims*

Claims 19 and 20 are newly presented claims. Claims 19 depends from claim 1 and claim 20 depends from claim 7. Applicant asserts the because claims 1 and 7 are allowable claims 19 and 20 are also allowable. In addition, none of the references cited discloses a magnetic head assembly as defined by claims 1 and 7 having an auxiliary member adhered to the leading and trailing sides of the magnetic recording head. Thus, Applicant respectfully requests consideration and allowance of claims 19 and 20.

The present application has been amended in response to the Examiner's Office Action to place the application in condition for allowance. Applicant, by the amendments and remarks presented above, has made a concerted effort to present claims which clearly define over the prior art of record, and thus to place this case in condition for allowance.

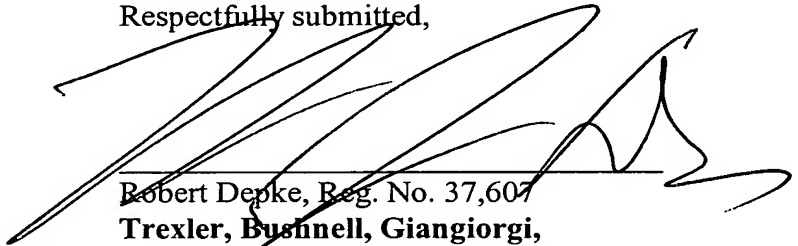
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Should the present claims not be deemed adequate to effectively define the patentable subject matter, the Examiner is respectfully urged to call the undersigned attorney of record to discuss the claims in an effort to reach an agreement toward allowance of the present application.

Date: \_\_\_\_\_

6/16/05

Respectfully submitted,



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